

ATTORNEY DOCKET NO. 98-C-152C1 (STMI01-00043)
U.S. SERIAL NO. 10/059,982
PATENT

REMARKS

Claims 1-9 and 14-26 are pending in the present application. Claims 10-13 were previously canceled, and claim 27 was canceled herein. Claims 9 and 22-23 were previously withdrawn, but have not been canceled. Claims 1-8, 14-21 and 24-26 were amended herein.

An amendment was made to the specification to supply a patent number corresponding to an application that was incorporated by reference. No new matter was added by the amendment.

Reconsideration of the claims is respectfully requested.

35 U.S.C. § 112, First Paragraph (Enablement)

Claims 1-8, 14-21 and 24-27 were rejected under 35 U.S.C. § 112, first paragraph as failing to comply with the enablement requirement. This rejection is respectfully traversed.

The Office Action states:

In the original specification and figures 1C and 3, capacitive electrodes 136 (fig. 1C) and 302 (fig. 3) are directly connected with another conductive layer 231 (fig. 1C) and 312 (fig. 3), respectively, thereby preventing the capacitive electrode from forming a capacitor because the current from the first conductive layer would flush through the capacitive electrode. This means a capacitor is not formed.

Paper No. 20070611, page 2. However, as known in the art (see U.S. Patent No. 6,114,862, incorporated by reference in the subject application), capacitive electrodes 136 actually form a capacitor with the finger placed on the surface overlying those electrodes, which is how ridges and valleys on the skin of that finger are detected (by variation in capacitance due to differences in

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limitation one or more "capacitive electrode(s) . . . proximate to a sensing surface on which an object is selectively placed [and] forming a capacitor with the object when the object is placed on the sensing surface." The recited "object" is not part of the claimed structure, but merely defines the environment within which the claimed structure operates – specifically, that the electrodes are located proximate to the surface on which such object is to be placed for sensing, and that the electrodes form a capacitor with the object when the object is placed on that surface. The object itself is not part of the claimed structure, but is instead merely a reference point for defining the position and operation of the claimed structure.

Therefore, the rejection of claims 1–8, 14–21 and 24–27 under 35 U.S.C. § 101 has been overcome.

35 U.S.C. § 102 (Anticipation)

Claims 1–8, 14–21 and 24–27 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,852,591 to *Rhodes*. This rejection is respectfully traversed.

A claim is anticipated only if each and every element is found, either expressly or inherently described, in a single prior art reference. The identical invention must be shown in as complete detail as is contained in the claim. MPEP § 2131 at p. 2100-76 (8th ed. rev. 5 August 2006).

Independent claims 1, 14 and 24 each recite a capacitive electrode forming a capacitor with an object placed on the sensing surface proximate to the capacitive electrode. Such a feature is not

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distance between the capacitive electrodes 136 and a ridge and between the capacitive electrodes 136 and a valley.

Therefore, the rejection of claims 1-8, 14-21 and 24-27 under 35 U.S.C. § 112, first paragraph has been overcome.

35 U.S.C. § 101 (Statutory Subject Matter)

Claims 1-8, 14-21 and 24-27 were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. This rejection is respectfully traversed.

The Office Action states:

Independent claims 1, 14 and 24 include a limitation claiming "human fingers for sensing the ridges and grooves on a surface."

Paper No. 20070611, page 2. However, independent claim 1 actually recites "a sensing surface on which an object is selectively placed, the capacitive electrode forming a capacitor with the object when the object is placed on the sensing surface." Similarly, independent claim 14 recites "a sensing surface on which an object is selectively placed, the capacitive electrode forming a capacitor with the object when the object is placed on the sensing surface" while independent claim 24 recites "a sensing surface on which an object is selectively placed, the capacitive electrodes each forming a capacitor with the object when the object is placed on the sensing surface." NONE of the independent claims recites "human fingers" as asserted in the Office Action.

Moreover, to the extent that the "objects" actually recited in the claims may be human fingers, such elements do not constitute a limitation of the claim. The claim only recites as a

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found in the cited reference. Conductive layer 160 in *Rhodes* does not form a capacitor with an object placed on the surface of passivation layer 164:

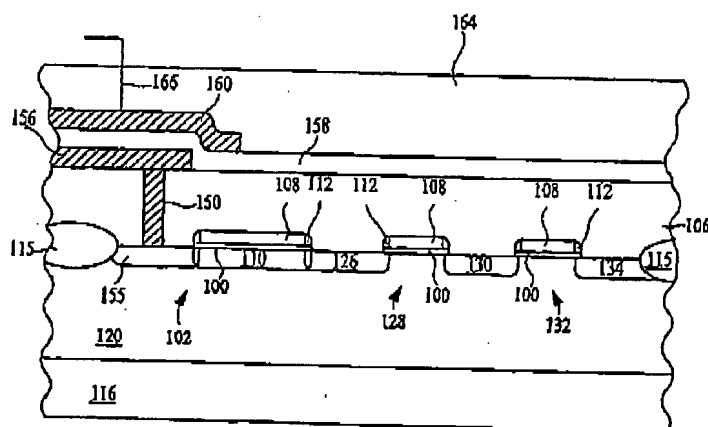


FIG. 14

Instead, conductive layer 160 is simply one electrode for a storage capacitor 162 formed by first and second conductive layers 156, 160 and intervening dielectric layer 158, and is connected by metal contact 166 to ground:

A second conductive layer 160, which forms the second electrode of the capacitor 162, is patterned and formed over the dielectric layer 158 in a method similar to that of the first conductive layer 156. The second conductive layer 160 may be formed of the same or difference conductive materials from those used for the first conductive layer 156. Preferably, both the first and second conductive layers are formed of doped polysilicon with a nitride dielectric layer 158 formed between the two conductive layers 156, 160. A passivation layer 164 is then deposited over the capacitor 162 as shown in FIG. 14. The passivation layer 164 may be any material, such as USG, BPSG, PSG, BSG, provided that the material does not interfere with the collection of light in the photoarea. A hole is etched and a metal contact 166 is formed therein in the passivation layer 164 to connect the second electrode 160 of the capacitor 162 to an electrical circuit, e.g., a ground source potential.

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Rhodes, column 10, lines 20-37. Nowhere does *Rhodes* teach that, during operation of the structure disclosed, conductive layer 160 forms a capacitor with an object placed on a proximate sensing surface. Instead, *Rhodes* teaches that the storage capacitor 162 formed by conductive layers 156, 160 holds collected charge received by conductive layer 156 from nearby photogate transistor 125. *Rhodes*, column 7, line 44 through column 8, line 5.

Amended independent claims 1, 14 and 24 also each recite that the capacitive electrode(s) is/are electrically connected to the underlying semiconductor device active region(s). Such a feature is not found in the cited reference. Conductive layer 160 in *Rhodes* is electrically isolated from (albeit capacitively coupled to) the underlying conductive structure, including conductive layer 156 and source/drain region 155.

Therefore, the rejection of claims 1-8, 14-21 and 24-27 under 35 U.S.C. § 102 has been overcome.

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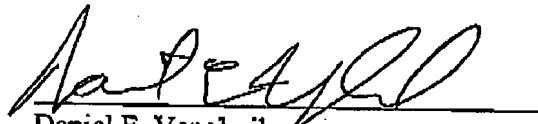
If any issues arise, or if the Examiner has any suggestions for expediting allowance of this Application, the Applicant respectfully invites the Examiner to contact the undersigned at the telephone number indicated below or at *dvenglarik@munckbutrus.com*.

The Commissioner is hereby authorized to charge any additional fees connected with this communication or credit any overpayment to Deposit Account No. 50-0208.

Respectfully submitted,

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